

## Welcome

The latest version of our newsletter is dedicated to a specific Center for Brain Health research study – The Alzheimer’s Disease Research Center (ADRC). The Cleveland ADRC aims to study the different forms of dementia with the hope that learning more about the disease can lead to new forms of treating, and eventually curing, Alzheimer’s and related disorders. This study is currently enrolling participants who do not have memory concerns, and those who are diagnosed with cognitive decline.

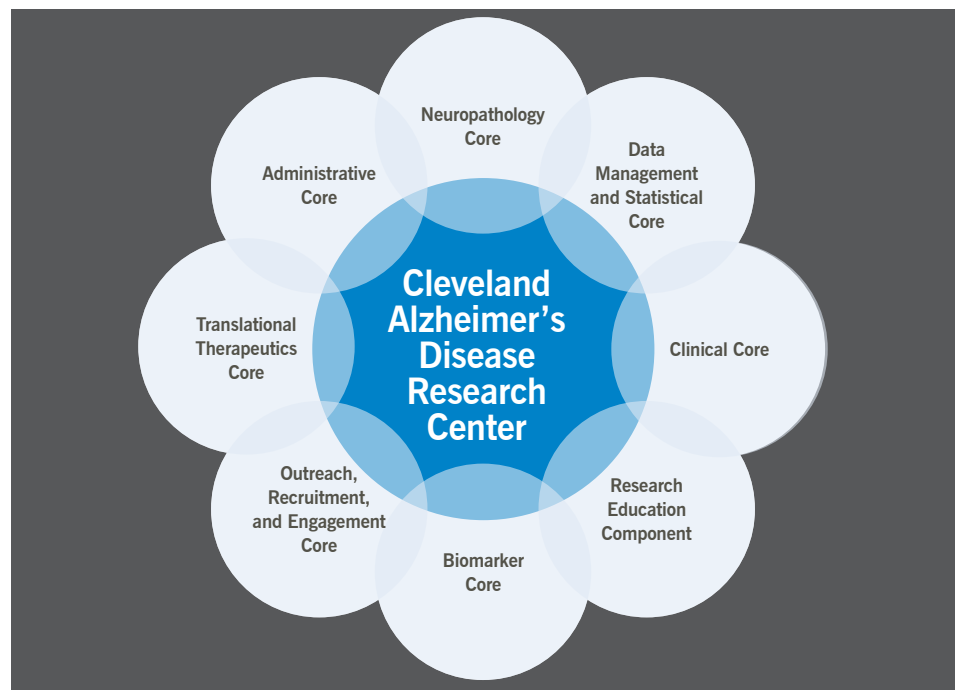
We also would like to welcome a new member of our team, who has completed our one-year fellowship training program. Dr. Steve MacDonald is a neurologist that works with our clinical team, and welcomes new and already established patients. He is an inspirational addition to our team and is always ready to tell a good ghost story!

Please take time to read through this letter. We have new research studies that are currently looking for volunteers, and have included already published research our brilliant principle investigators have been working on over the past year.

As always, we are grateful that you have chosen the Cleveland Clinic Lou Ruvo Center for Brain Health for your care.

Sincerely,

The CBH Research Team



## The Alzheimer's Disease Research Center

The Cleveland ADRC will follow individuals over time collecting clinical information, specimens, and imaging data for future research. We not only will be enrolling individuals with memory problems, such as those diagnosed with Alzheimer's disease or lewy body dementia, but we also want to follow healthy individuals over time. The ADRC is an observational project to better understand dementia, which means patients are not given an experimental drug.

We have clinical trials individuals can be a part of, but the ADRC is not a study giving medication. We want to follow people over several years. The visits would occur at University Hospital in Beachwood Brain Health and Memory Center or Cleveland Clinic Center for Brain Health (located at the corner of E 89th and Euclid) – all healthy controls will come to Cleveland Clinic, but otherwise, the participant can pick which clinical site they go to. If the person says that they are concerned about memory but haven't seen a doctor yet, they should go through a clinical work up first. Participants should have a diagnosis or evaluation prior to being enrolled (if they have memory concerns). This study is completely voluntary and participants can withdraw at any time.

# Q&A with Neurologist Dr. James Leverenz



## How did you first get involved with the ADRC?

For a number of years I had worked as an investigator in the Alzheimer's Disease Research Center (ADRC) at the University of Washington in Seattle evaluating and recruiting participants and providing support for the brain donation program. When I was first recruited to Cleveland Clinic, they had

expressed a desire to successfully apply for a Center in Cleveland. I realized upon arriving in Cleveland that there was a great deal of talent and expertise at the major medical and research institutions in northeast Ohio. It was clear to me that there were many opportunities to develop a center, and there is a demand for that kind of work to be done here.

## How is the ADRC different from the other research studies at CBH?

The ADRC is different in that we are collaborating with multiple institutions with a prescribed evaluation. It is also part of a network of Alzheimer's Research Centers around the country funded by the National Institute of Health. The Cleveland ADRC is 1 of 31 centers around the country. We all agree to do similar participant evaluations, so that data can be utilized from multiple centers (with appropriate privacy protections). In addition, each center has its own focus. The Cleveland ADRC focuses on atypical forms of Alzheimer's disease, dementia with Lewy bodies, normal aging, and risk for Alzheimer's disease in the Down syndrome population.

## What do you like most about your job?

I enjoy working with people – both patients, their care partners, clinicians, and researchers here at the Clinic and in northeast Cleveland. For me, I get most excited about the discovery

component of research, finding something that is an 'aha' moment, and coming up with ideas and seeing how those ideas pan out in the real world.

## What does a typical day look like for you and what are you currently working on?

I have no typical day. I start my work day around 6:30 in the morning. As a director of the ADRC and the Center for Brain Health, I have many meetings to organize our activities. Many of those are with people who help with clinical care or research, which allows me to be more productive within a normal day. I wrap up work around 6:00 at night, and will usually do some work later in the evening. I also work on the weekends to do some writing and research planning. It's definitely a calling for me.

## What is one thing you would tell someone who is on the fence about participating in research?

I would suggest communicating with us around their hesitancy and concerns. There are a number ways a person can participate, and we can frequently find some way a person can feel comfortable participating. It's also worth noting that many of our studies do not involve a medications, although we also have opportunities for medication trials if a person is interested.

## So, anything else interesting happening in life outside of work?

Well, my first grandchild was born in March. Unfortunately she lives in the Seattle area, and it is hard to travel these days. We FaceTime a lot with my daughter and her family. I'm looking forward to seeing her in, hopefully, the not too distant future!

## CBH publications

### Babak Tousi, MD

Sabbagh M, Sadowsky C, Tousi B, Agronin ME, Alva G, Armon C, Bernick C, Keegan AP, Karantzoulis S, Baror E, Ploznik M, Pascual-Leone A. Effects of a combined transcranial magnetic stimulation (TMS) and cognitive training intervention in patients with Alzheimer's disease. *Alzheimers Dement.* 2020 Apr;16(4):641-650.

Unger RH, Flanigan PM, Khosravi M, Leverenz JB, Tousi B. Clinical and Imaging Characteristics Associated with Color Vision Impairment in Lewy Body Disease. *J Alzheimers Dis.* 2019;72(4):1233-1240.

### Jagan Pillai, MD, Ph. D.

Pillai JA, Bonner-Jackson A, Bekris, LM, Safar, J, Bena J, Leverenz JB. Highly elevated cerebrospinal fluid total tau level reflects higher likelihood of non-amnesic subtype of Alzheimer's disease. *J Alzheimers Dis.* 2019;70(4):1051-1058. doi: 10.3233/JAD-190519

Pillai JA, Maxwell S, Bena J, Bekris, LM, Rao, SM, Chance M, Lamb BT, Leverenz JB, for the Alzheimer's Disease Neuroimaging Initiative\* Key Inflammatory Pathway Activations in the MCI Stage of Alzheimer's Disease. *Ann Clin Transl Neurol.* 2019 Jul;6(7):1248-1262. doi: 10.1002/acn3.50827.

### James Leverenz, MD

Bernick C, Shan G, Zetterberg H, Banks S, Mishra VR, Bekris L, Leverenz JB, Blennow K. Longitudinal change in regional brain volumes with exposure to repetitive head impacts. *Neurology,* 94(3): e232-e240, 2020. PMID: Pending

Weber GE, Koenig KA, Khrestian M, Shao Y, Tuason ED, Gramm M, Lal D, Leverenz JB, Bekris LM. An altered relationship between soluble TREM2 and inflammatory markers in young adults with Down Syndrome: A preliminary report. *J Immunol.* In Press, 2020. PMID: Pending

# Q&A with Research Assistant Emma Forner

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## How did you first get involved with the Center for Brain Health?

I held an internship during my senior year of college, both fall and spring semesters, as a neuropsychology intern with Dr. Aaron Bonner-Jackson. I was originally drawn to the internship knowing that graduate school was, and remains, in my future. I immediately took a liking to the Center and was inspired by the work being done within the department.

## What do you like most about your job?

I consider myself a sensitive person, and because of this it is in my innate nature to want to help others. Having the opportunity to work hands on with patients and their families is one of the most rewarding aspects of my job. The knowledge and skills that I learn as a Research Assistant empower me to want to help be a part of changing our future. Ultimately, I find joy in knowing that the studies within the Center for Brain Health will help in carving a path that gets our world one step closer to a cure.

## What does a typical day look like for you and what are you currently working on?

Every day is different, exciting, and sometimes surprising! A typical day may consist of prepping for a visit. This includes but is not limited to preparing a participant's binder, questionnaires, and biospecimen collection forms. Some of my main duties on a day of a research study visit include performing cognitive testing with our participants, completing a structured interview with both the participant and their caregiver, processing cerebrospinal fluid, and data entry.

Things have changed a bit within our center due to COVID-19. Currently, we are working on strategizing the safest plans in order to phase back into screening participants and running research visits. As we virtually keep contact with patients we have prioritized their safety as well as that of our team. I am really looking forward to the exciting things to come as our Center gets back to business!

## You are a Research Assistant for the Cleveland Alzheimer's Disease Research Center (CADRC), what has this experience been like? What have you learned from this experience so far?

It has been remarkable to see all of the accomplishments that each team member has achieved in order to get the CADRC up and running. It was a major feat when the team enrolled our first participant in October of 2019. Watching this study grow and evolve thus far has taught me that it takes a strong team to make all of this possible! I have grown in my understanding of neurodegenerative diseases. Also, the participants have taught me to appreciate life and each new day that it brings. Above all else, I have both embodied and witnessed a tireless commitment to patients and I have learned what it truly means to put patients first.

## What else gets you out of bed in the morning?

A lot of things make me jump out of bed! Knowing that I am actively participating in meaningful work that is positively impacting people everywhere, working in a pleasant and positive working environment with coworkers that have now become my friends, and, of course, my morning cup of coffee! If I am able to make one of our participants smile I know it is going to be a good day.

## So, anything else interesting happening in life outside of work?

I'm preparing to apply to graduate programs in both Clinical Psychology and Clinical Mental Health Counseling. I'm very excited to take this next step! Currently, I am adjusting to life during COVID-19. I recently took an interest in baking and retaught myself how to play the guitar. With the weather warming up as summer takes off, I am anxious to start spending more time outdoors, riding my bike more often, and hiking. Looking ahead, I am planning to become a certified yoga instructor – Namaste!

### Steve Rao, Ph. D.

Gorodeski, E.Z., Rosenfeldt, A.B., Fang, K., Kubu, C., Rao, S.M., Jansen, E.A., Dey, T., Alberts, J.L. (2019). An iPad-based measure of processing speed in older adults hospitalized for heart failure. *Journal of Cardiovascular Nursing*, 34. doi: <https://doi.org/10.1097/JCN.0000000000000568>

Pillai, J.A., Maxwell, S., Bena, J., Bekris, L.M., Rao, S.M., Chance, M., Lamb, B.T., Leverenz, J.B., and Alzheimer's Disease Neuroimaging Initiative (2019). Key inflammatory pathway activations in the MCI stage of Alzheimer's disease. *Annals of Clinical Translational Neurology*, 6(7), 1248-62. doi: 10.1002/acn3.50827

Baldassari, L.E., Nakumura, K., Moss, BP, Macaron, G., Li, H., Weber, M., Jones, S.E., Rao, S.M., Miller, D., Conway, D.S., Bermel, R.A., Cohen, J.A., Ontaneda, D., McGinley, M.P.(2019). Technology-enabled comprehensive characterization of multiple sclerosis in clinical practice. *Multiple Sclerosis and Related Disorders*, 38. doi: <https://doi.org/10.1016/j.msard.2019.101525>

Rao, S.M., Galioto, R., Sokolowski, M., McGinley, M., Freiburger, J., Weber, M., Dey, T., Mourany, L., Schindler, D., Reece, C., Miller, D.M., Bethoux, F., Bermel, R.A., Williams, J.R., Levitt, N., Phillips, G.A., Rhodes, J.K., Alberts, J., and Rudick, R.A. (2020). Multiple sclerosis performance test: Validation of self-administered neuropsychological modules. *European Journal of Neurology*, Epub ahead of print. doi: 10.1111/ene.14162

# Current research studies

## BAN IRB #19-699

The Clarity AD clinic study will look at whether an investigational drug may be effective against memory loss or Dementia caused by Alzheimer's disease. If you participate in the Clarity AD clinical study: You will have an ongoing relationship with a brain health research team. You will have a schedule of clinic visits to attend during your participation in the study. There is no cost to participate in the Clarity AD clinical study. Transportation may be available and you may be reimbursed for your time. You may also have the opportunity to continue in an extension study where you will receive investigational drug and undergo procedures and assessments at no cost to you. You may be eligible to participate if you are 50-90 years old and have a study partner to accompany you to study visits.

## CADRC IRB #19-366

The Cleveland Alzheimer's Disease Research Center (CADRC) aims to study the different forms of dementia in the hope that learning more about the disease can lead to new forms of treating, and eventually curing, Alzheimer's and related disorders. The CADRC will follow individuals over time collecting clinical information, specimens, and imaging data for future research. We not only will be enrolling individuals with memory problems, such as those diagnosed with Alzheimer's disease or Lewy body dementia, but we also want to follow healthy individuals over time.

## DLBC IRB #17-044

The purpose of the Dementia with Lewy Bodies Consortium is to develop a collection of samples from individuals diagnosed with Dementia with Lewy bodies (DLB), dementia with Lewy bodies, Mild cognitive impairment, or Parkinson's disease dementia who will be followed over time. The consortium will collect detailed clinical information, bio specimens, and imaging data. Led by Dr. James Leverenz and other top leaders in the field, this consortium will fill the gap in resources available for biomarker development in Lewy body dementia and promote additional future research by having a readily available subject sample.

## Immune AD IRB #17-761

Patients may qualify for this study if they are 65 to 80 years old and are overall healthy. This study will look at the effect of physical activity, sleep quality, and genetics on inflammation related brain changes seen in the brain over two years in older adults. Participation will last 2 years including 7-9 clinic visits and may involve all or some of the following procedures: 2 physical activity assessments, 2 PET scans, 2 MRI scans, 2 lumbar punctures, sleep study, genetic testing, and evaluations of memory function. Financial compensation will be provided.

## Biobank IRB #14-604

The purpose of the biobank is to improve the speed of research on aging associated disease by developing a bank of bio specimens from participants. The biobank will allow investigators to have rapid access to frequently needed biospecimens for their research studies. All biospecimens and information will be stored with a unique study ID number for privacy and confidentiality purposes.

## Brain Donation IRB #15-881

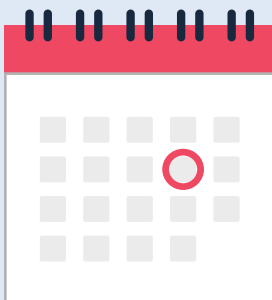
One of the best ways to learn about the brain is to study brain tissue after a patient passes away. Thanks to the generous gift of individuals who donate brain tissue after their passing, we have made significant advances in our understanding of the brain and diseases that affect brain function. By participating in the Brain Donation Program at the Lou Ruvo Center for Brain Health, your (or your loved one's) brain tissue will be used to help advance our knowledge of these diseases and may bring us closer to our ultimate goal of finding a cure.

## Normative Cognition IRB #17-623

The purpose of this study is to test a set of iPad applications called the Cleveland Clinic Computerized Cognitive Screening Battery (C4SB). The C4SB is being tested to develop a better way to assess cognition (e.g. memory, thinking skills, and processing speed) in adults. In order to evaluate patient data, we need to have an up to date collection of healthy volunteers' test scores. These test scores will be used to create a normative database, which is a database of scores that are considered to be appropriate for different characteristics including age, sex, race, ethnicity and level of education.

## COVID-19 Statement

The coronavirus pandemic has been a challenging change for our patients, and we hope that you are all doing well. The Cleveland Clinic has made the decision to increase virtual visits for the safety of our patients and caregivers. Our staff are working on ways to stay engaged with their patients, and we hope that we can get back to 'normal' soon. Research study visits will begin in-person starting on June 15th. Please reach out to your healthcare provider if you are having trouble adjusting to these changes, or have any questions. We are here for you!



## Brain Health and Research – Zoom Webinar Series Friday, August 14, 2020 | 1-2 p.m. ET

This webinar series will present brain health and research information to patients and families in the Greater Cleveland area. The events are free, but require registration (Eventbrite).

The webinars will be held via Cleveland Clinic Zoom. Dr. Lerner and Dr. Tousi will be the main speaker for each topic for 20 minutes each. Moderators at each site will introduce the topics and gather questions for a Q&A segment. The recorded webinar will be available for on-demand viewing, which can be shared via social media, posted on a website or shared as a link in an email.